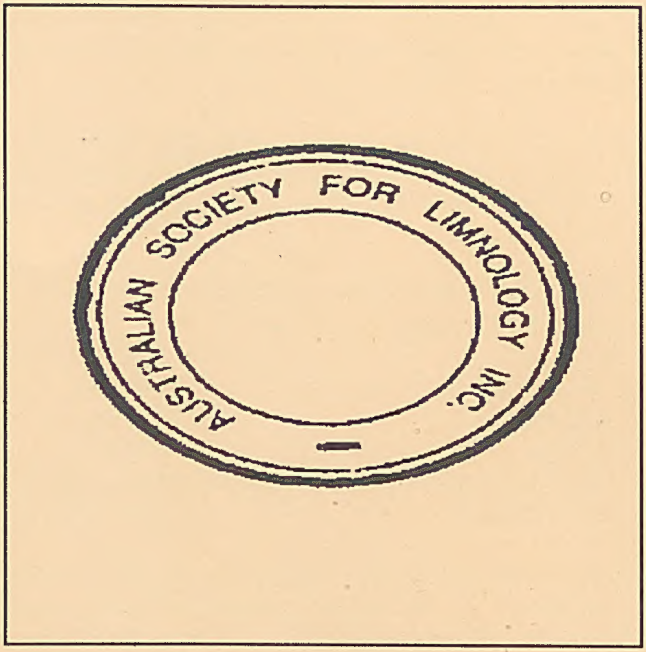
AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

NEWSLETTER



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MEMBERSHIP DETAILS

The Australian Society for Limnology Inc. (ASL) is an association of over 400 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of general interest, book reviews and announcements of upcoming events likely to be of interest to members. Occasionally, it produces a Special Publication series and a Directory of Members.

Membership applications are welcome from any person with an interest in limnology. Five classes of subscribing membership are available:

Ordinary members	$ 20.00
Student members	$ 10.00
Life members	$200.00
Institutional members	Fees on application
Sustaining members	Fees on application

Membership covers the period from 1 July to 30 June and all members receive the regular and occasional publications produced by the society. Members may also choose to receive the Australian Journal of Marine and Freshwater Science, the Australian Journal of Zoology and/or the Australian Journal of Botany at special reduced rates. The subscription for each journal is based on the calendar year in which the subscription is paid.

Enquiries relating to membership should be directed to the Membership Officer:

Mrs Margaret Hart
22 Netherby Avenue
MULGRAVE VIC 3170 Ph. (03) 5604406 [Fax (03) 2113646]

CONTENTS

Editorial 2
The ex-President's Report 4
The New Constitution 7
The Demise of AWRAC: What Next? 14
Prattle, Rumour and Scuttlebutt 20
Next Year's Conference 33
Call for Jolly Award Nominations 34
Conference Report - Jabiru 1990 35
Reports 36
Door Prize 40
Those incriminating photos 42
Office Bearers 1990/91 51
Wetlands Research in Progress 53
Announcements 57
The Summer of 1988/1989. A Vintage Season for Blue-Green Algae 58
Book Reviews 60
Limnological Bibliography 61
Endnote 63

Material for publication in the September issue of the newsletter should be sent to the editors before the 24th of August.

Contributions are welcome from members and non-members alike on any topic concerned with limnology (or anything else that may be of interest to the readers). Long articles should be forwarded as unformatted text on IBM or IBM-compatible discs, or as formatted text in any commonly used word processing package (e.g. WordPerfect, Microsoft Word, Wordstar). All those with Macs, send hard copy (I bet you have Beta video recorders too). Camera ready copy can also be sent (A5 sheets, 1.5 cm T/B margins, 2.0 cm L/R margins, 12 pt. bold Times Roman headings, 9 pt. Times Roman text, recycled paper, with a note from your legal guardian, accompanied by cash - used bills of low denomination preferred - What, us fussy? Never!).

Cover: The cover shows the official seal (*Arctocephalus pusillus*) of the Australian Society for Limnology Inc. If you have any ideas for good cover designs, please let the editors know.

Editorial

DO NOT ADJUST YOUR NEWSLETTER

Do not adjust your newsletter! There is nothing wrong with your vision or comprehension. Do not be alarmed! There is nothing wrong with this edition. We have taken control! We control the font size, we control the font style, we control the **appearance of the text**. We have almost total control. But do not be alarmed. We are friendly (well, mostly).

After three years editing the ASL Newsletter, Jenny Davis and her intrepid, dedicated, hard-working team over in Western Australia decided that it was finally time to call it a day. Unfortunately there are only 24 hours in each day and the task of running a busy research and administration schedule began to take its toll. Over the years, Jenny and her team set an exemplary standard of production that will be hard to maintain. If our efforts produce a newsletter that comes close to the standard set, we shall be well pleased with our efforts.

Of course, we do not have control over everything. The most important factor that we cannot determine is the content of each newsletter. That, to a great extent, is up to you, the members of the society and the readers of the newsletter. We are quite willing to accept any contribution that you may feel is appropriate for inclusion. Pretty well all the features of the old newsletters have been maintained - book reviews, information from conferences far and wide, the bibliography (don't forget to send your listings to Russ), requests for information and specimens, reports of political developments, and hopefully just a little bit of humour, including cartoons that have been lifted (a synonym for plagiarized?) from a variety of sources.

In addition, we intend to add a few more features. Firstly, the State and Territory Affairs section has been renamed to avoid the obvious Australocentric neo-colonialist implications, to include a foreign affairs section, with regular reports from overseas limnology bases (particularly Papua New Guinea, but any other members overseas who want to inform us on developments there are welcome to contribute). Then there is a forum section, which hopefully will develop into a discussion section for debate on society or general scientific matters.

This issue includes a number of things suitable for discussion, many of which are included in the ex-president's report. These concern the future of the Society and should be read by everyone. Some aspects concern the structure and organization of conferences. Whether poster sessions are a good idea, whether we should run joint conferences with other organizations (e.g. AMSA) and the like. Such issues were discussed at the AGM at Jabiru, but deserve a wider audience, and a wider discussion from the members. Also, you may

notice that, unlike other post-conference editions, we have not included a copy of the abstracts of the papers delivered. Apart from the time and money required to reproduce the lengthy document, the editors are unsure whether this approach has any real value. It may have some value in informing people what is going on in limnology in general, but who has ever followed up an abstract to get the "real" story? Comments on these issues are welcome for future editions.

Unfortunately, producing an issue of this newsletter is a fairly labour and time-consuming business. Anyone who has attempted to put together something of this kind will understand the problems involved. Copy almost invariably does not arrive on time (your fault), editors invariably take holidays or are involved in field work at the time of production (our fault ... the reason for the delay in this issue includes one editor changing jobs, and the other spending a holiday overseas, the process of re-registering the newsletter in Victoria, finding a printer, getting a tax exemption for printing (saving your bucks!), paperwork - not to mention attempting to do some work as well), and printers ... well ... printers are printers (not our fault). Please forgive any delays in production in the future (and you can be sure there will be some). As with all previous editors, we will do our best. If you are still not satisfied, feel free to write and complain, but be sure to include your signed and witnessed offer to take over the editorial responsibilities in the future with your complaint.

One way of helping is to send any written contribution on computer disk, rather than as hard copy. Word processing in our respective institutions is a precious commodity, and outside work such as this cannot be given a high priority, further adding to potential delays. So a copy on any common size disk (3½" or 5¼") would be invaluable (of course, if your computer is virus-riddled, don't bother!). ASL has invested in a copy of a document conversion program, which has the ability to convert all common, and some of the more obscure, word processing packages. So you can send copies of the original text with any special character codes you might like, and we will be able to convert it to our prefferred word processor. Send anything you might have to:

T. Doeg and L. Barmuta
Editors, ASL Newsletter
c/- Department of Conservation and Environment
123 Brown Street
Heidelberg 3084
Victoria.

THE EX-PRESIDENT'S REPORT

Presidential Address delivered by Rod Oliver at the 29th ASL Congress at Jabiru N.T.

In recent years some members of ASL have expressed concern that the structure of the Society is inadequate to continue effectively promoting the profile of the Society and of limnology. In the words of Williams (1987), the Society has allowed Australian Limnology to "outgrow" it. Various suggestions have been made as to how the executive could be restructured to improve the functioning of the Society (eg. Hart 1984, Campbell 1987). The suggestions have included: longer terms for office bearers to ensure improved continuity, a larger executive to enable an increased work load to be shared amongst more people, and improved election procedures to enhance the quality of the executive and avoid the disenfranchisement of those members unable to attend the AGM.

I agree with many of these suggestions, however they have invariably been linked with a desire for the Society to increase its political role. Although this is important, I believe that the Society should also be seeking to increase its direct support of the science. It is these two roles which I will briefly discuss: the political role, where the Society seeks to play a greater and more influential role in the debate over water related issues, and the scientific role, where the Society seeks to support and improve limnological research by assisting in communication transfer. These two roles are not independent of each other; however, with the limited money and time at its disposal it is important that the Society seriously consider and discuss the extent to which each of these apects is pursued. The extent to which the Society undertakes one role will to some degree dictate its capability to pursue the other, so this is an important question of policy which should be considered by the Society's members.

I will suggest a number of ways in which the society might improve its profile, both scientifically and politically, however the purpose here is not necessarily to provide answers, but to try and focus the discussion which must take place within the Society if we are to ensure that any change strengthens and does not divide it.

Let us turn first to the scientific role of the Society in Australian limnology. Undoubtedly ASL has played an important part in shaping the current limnological scene in this country. It has provided a focal point and a catalyst which has acted to reinforce the growth and strengthen the bonds within the discipline. The annual conferences have played and continue to play a major part in this process. The ASL Newsletter has grown from strength to strength and provides an excellent means for informal communication. The Special Publications and the book "Limnology in Australia" have contributed considerably to Australian limnological knowledge.

The Bulletin has had a rather chequered history with much debate about its purpose and its fate. In the last few months the criteria for the submission of articles have been revised. These new guidelines establish the role of the Bulletin as a place for publishing substantial works such as taxonomic keys, or collections of papers with a central theme such as proceedings of specialised workshops. The executive is confident that these guidelines will stabilise the role of the Bulletin and increase its importance. To further enhance the stature of these publications and entice prospective submissions, I believe that the format of the Bulletin also needs to be upgraded.

Despite these quite substantial contributions, the Society should be seeking to further increase its communication activities. One important area in particular which the society should consider is support for workshops. This would of course require funding. Kirk (1986) in his Presidential address, lamented the lack of financial reserves held by the Society and alluded to the difficulties it caused during the publishing of the book "Limnology in Australia". The disadvantage of having limited financial reserves is that when an important and worthwhile initiative arises which requires an input of funds, the Society may find itself unable to assist without stretching its resources to the limit.

Since these comments were made the Society has managed to build up its finances, partially due to the efforts of Margaret Hart as Treasurer and partially due to some good fortune along the way. These reserves are now at a suitable level for the society to maintain and the executive has been discussing the suggestion that the interest from this principal should be used to provide assistance to one or two workshops a year. Although the sums distributed would not be large, the decision to use the interest in this way would almost certainly mean that the principal held by the Society would no longer increase in size and consequently, in real terms, the value of the principal and its interest would slowly decline with time. This is an important decision and certainly requires input from the membership.

The Society generally has very limited contact with other scientific societies, even with those which have overlapping or closely associated interests. I believe this isolation is restrictive and ASL should work to strengthen these ties. For example, the Society could negotiate with AMSA and ASPAB to hold consecutive and/or concurrent conferences at regular intervals. AMSA and ASPAB both have a fundamental interest in aquatic science and indeed have interest groups which overlap with those in ASL. As AMSA and ASPAB meet every 18 months it would be possible to hold every third ASL meeting in conjunction with one or both of these societies. The current president of ASPAB has indicated that their society might be interested in such an arrangement. The opinion of the members of ASL needs to be fully canvassed before the executive embarks on developing such an arrangement.

Turning to the political role of ASL, I doubt that the Society has the resources to seriously undertake concerted and continued lobbying. This is not to say that the Society shouldn't partake in political debate whenever it is appropriate. Certainly as a society of professionals we should take every opportunity to play a greater and more influential role in the debate over water related issues. To this end the executive has set up an Advisory Group on Government Water Resources Policy. The purpose of this group is to provide the executive with early information of important changes in Water Policy and to advise on appropriate responses. The group recently assisted the executive in formulating a response to a discussion paper from the Department of Primary Industries and Energy, detailing the arrangements to establish the Land and Water Resources Research and Development Corporation. This is the corporate organisation which is to subsume AWRAC. Although the response voiced the Society's concerns, and I hope successfully put the case for ASL to be included amongst the representative organisations which will advise the new corporation, this is not what I would consider concerted lobbying. Dealing with the same question the Federation of Australian Scientific and Technological Societies (FASTS) was able to arrange a meeting with the Minister and put questions directly to him.

ASL has been a reticent member of FASTS for some time. In part the society has been waiting to see how effectively FASTS would operate as a lobbying group, but there have also been concerns about the membership cost to the Society and also questions regarding the calculation of the membership fee. Currently if a person belongs to more than one of the Societies in FASTS each of the societies pays a fee for that person, that is multiple payments are made for the one individual. This problem has still not been resolved.

Despite these problems, membership of FASTS probably represents an efficient way of increasing the political effectiveness and awareness of ASL. The annual membership fee would be of the order of $1400. However, to take the greatest advantage of FASTS membership, the society must be willing to actively participate in its proceedings. At a minimum this requires the society to send two delegates biennially to the FASTS Council and Forum. The most likely delegates would be the president and secretary of ASL. As executive members cannot be expected to personally meet the costs associated with such duties, the Society would need to pay the additional costs associated with the travel and accomodation of these delegates.

Within FASTS the aquatically-oriented societies are organised into a single group called Group 11. This includes AMSA and ASPAB and further increases the importance of improved contact and discussion with these societies.

Rod Oliver
Immediate Past President - ASL

THE NEW CONSTITUTION

The following is the text of the constitution accepted by Corporate Affairs in Victoria as the final act of incorporation. The changes voted on recently by members of the society are included. In addition, one further change in section 9 (in bold in this copy) has been made under the authority of the Public Officer (R. Marchant). Apparently, under Victorian law, changes required by the Corporate Affairs to complete incorporation can be made by the Public Officer, without a vote of the members, but those changes are restricted to ones required by Corporate Affairs to complete incorporation - clear? Of course, once the incorporation process is complete, the Public Officer loses this power, and any further changes to the constitution must be put to the vote.

The Australian Society for Limnology Incorporated

CONSTITUTION

1. NAME

The name of the Society shall be the Australian Society for Limnology Incorporated.

2. OBJECTIVES

The objectives of the Society shall be to establish effective liaison between persons interested in any aspect of fresh and brackish water research in Australia and to encourage these interests and promote their study in State and Commonwealth Research Institutes and Departments, and Educational Institutions.

3. MEANS OF ATTAINING OBJECTIVES

The following means may be used to attain the objectives of the Society:

(a) The establishment and maintenance of a register of all persons working in fields relevant to Limnology in Australia and adjoining countries, giving details of their current interests.

(b) The holding of an Annual Congress which will coincide with the Annual General Meeting.

(c) The production of a Newsletter (which shall be distributed to all Financial Members and all Honorary and Sustaining Members) by an Editor to be appointed by the Executive Committee.

(d) The publication of any scientific or other information relevant to the objectives of the Society. Scientific material shall, before publication by the Society, be considered and approved by an Editorial Board of at least two members appointed annually by the Executive Committee.

(e) The encouragement of interest in Limnology and support for the Society by the granting of Awards and by recognition of supporters through special categories of membership.

4. MEMBERSHIP

(a) The members of the Society shall be:

(1) Ordinary Members who shall be persons admitted to membership by the Executive Committee, who shall pay such annual subscriptions as shall be fixed from time to time.

(2) Student Members who shall be university undergraduates or scholars at any educational institution, who shall pay such annual subscription as shall be fixed from time to time.

(3) Life Members who shall be persons admitted to membership by the Executive Committee and who shall pay a fee set at the Annual General Meeting.

(4) Honorary members who may be elected for a limited specific period by the Executive Committee.

(5) Honorary life Members who may be appointed at an Annual General Meeting on the recommendation of the Executive Committee.

(6) Sustaining Members who may be individuals, companies or organisations, admitted as such by the Executive Committee, in accordance with the following requirements, and have the privileges indicated below:

(i) Any individual, company or organisation contributing the sum of $50.00 or more in any one year shall be eligible for admission as a Sustaining Member.

(ii) Sustaining Members who are companies or organisations shall have the right to nominate two persons who shall enjoy all the privileges of Ordinary Members, including the right to vote, but not to hold office, while Sustaining Membership is current.

(iii) Sustaining Members shall be acknowledged in all official publications of the society for a period of twelve months from the date of their contribution, and in any other manner as the Executive Committee may from time to time decide.

(b) The Executive Committee may, in its absolute discretion, refuse admittance to any classification of membership and shall be under no obligation to give any reason for its decision not to accept any candidate for membership.

(c) Disciplinary action may be taken by the Executive Committee against members who infringe the Constitution. Any member so charged may be expelled from the Society by the Executive Committee. A member can appeal against such action within thirty days. Appeals will be heard by a special committee of three Executive Committee members set up by the Executive Committee.

(d) Affiliated Bodies, Incorporated or Unincorporated Bodies and other organisations approved by the Committee may become affiliated with the Society on acceptance by the Executive Committee and on payment of such annual subscription as may be fixed from time to time.

(e) A register of Members and Affiliated Bodies shall be kept by the Treasurer/Membership Officer.

5. VOTING

Each Ordinary and Student member and each of the nominees of Sustaining Members shall be entitled to one vote at a General Meeting or in a postal ballot and each Affiliated Body shall have the right to appoint a delegate who shall be entitled to one vote at a General Meeting or in a postal ballot. Honorary Members shall not have the right to vote. All votes shall be cast personally and not by proxy.

6. ANNUAL SUBSCRIPTION

The funds for the Society will be derived from annual subscriptions, donations and such other sources as the Executive Committee determines. The annual subscription shall be due on 1 July in each year and the amount shall be fixed at the preceding Annual General Meeting. Members whose subscriptions are not paid by the succeeding 31 December shall be unfinancial and shall forfeit all rights and privileges of membership forthwith.

7. RIGHTS OF MEMBERS

All financial members are entitled to receive current issues of the Society's Newsletter, scientific and other publications free of charge, and to attend all general meetings of the Society.

8. MANAGEMENT

The Society shall be managed by an Executive Committee consisting of the President, the immediate Past President (ex officio), the Vice President, the Secretary, and the Treasurer/Membership Officer, together with not less than five and no more than eight other Committee Members, all of whom shall be elected at the Annual General Meeting. The position of Secretary and Treasurer/Membership Officer may be held by the one person. This Executive Committee shall implement the Society's general business, and a simple majority shall decide all questions at Executive Committee Meetings. If voting is equal, a motion is lost. A quorum at Executive Committee Meetings shall be four. **Casual vacancies on the Executive Committee may occur by a committee member resigning, by a committee member becoming insolvent under the companies' code or by a committee member ceasing to belong to the Society. In the event of such casual vacancies the Committee may appoint any suitable member of the Society to the vacant position.**

9. FINANCE

The financial year of the Society shall cover the period from 1 May in any year to 30 April in the next ensuing year.

(a) All funds received by the Society shall be banked in the name of the Society. Separate accounts may be established for specific purposes at the discretion of the Executive Committee.

(b) All bills or accounts shall be certified as to their correctness by the Treasurer/Membership Officer and shall be paid by cheque. All cheques shall be signed by any two of the President, Vice President, Secretary, and Treasurer/Membership Officer.

(c) No bill or account shall be paid without the prior approval of the Executive Committee, which approval may be obtained at a meeting of the Committee or by mail. Expenditure of a general nature may be approved in advance during any one financial year. Any commitment to expenditure entered into by the Executive Committee which has not been paid by the date of the Annual General Meeting shall be drawn to the attention of the Annual General Meeting in the Financial Statement together with any amounts owing to the Society.

10. GENERAL MEETINGS OF THE SOCIETY

The Annual General Meeting shall determine the date and place for the next Annual General Meeting. A Special General Meeting may be called at the discretion of the Executive Committee and shall be summoned as soon as practicable following receipt of a request to do so signed by not less than twenty (20) members entitled to vote. Special General Meetings shall be called by notice in writing, specifying the business to be considered, and notices must be posted to all Financial Members not less than fourteen (14) days prior to the proposed date. No business shall be conducted at any Special General Meeting other than that specified in the notice convening the Meeting.

11. QUORUM FOR GENERAL MEETING

At all General Meetings, twenty (20) or one half of members entitled to vote, which ever is less, shall consititute a quorum, and a simple majority shall carry a motion.

12. ANNUAL REPORTS

An Annual Report and Financial Statement shall be submitted to the Annual General Meeting, and the Financial Statement shall be audited by a person appointed at the previous Annual General Meeting. In the event that the Annual General Meeting is held prior to the end of the financial year, a separate Financial Statement covering the period of the financial year shall be prepared by the Treasurer/Membership Officer and the Auditor shall certify as to its correctness. Such audited report shall then be published in the Newsletter, or otherwise distributed to members as soon as practicable after the close of the financial year.

13. AMENDMENTS TO THE CONSTITUTION AND STATEMENT OF OBJECTIVES

Amendments may be made to the Constitution and statement of objectives of the Society at an Annual General Meeting, or at a Special General Meeting, or by a postal vote. Any

proposed amendments shall be submitted in writing over the signature of any two members of the Executive Committee which shall either:

(a) refer them for consideration at the next ensuing Annual General Meeting, or

(b) call a Special General Meeting, for the purpose of considering the proposed amendments, or

(c) conduct a postal ballot of all Financial Members.

A proposed amendment shall be carried by a 3/4 majority of votes polled. At least 3 weeks' notice shall be given to all members by the Executive Committee of any proposed change to the Constitution. Any amendments or alterations to the Constitution and the objectives of the Society shall be made in accordance with the Associations Incorporation Act 1981.

14. SEAL

a) The common seal of the Society shall be kept in the custody of the Secretary

b) The common seal of the Society shall not be affixed to any instrument except by the authority of the Executive Committee and the affixing of the common seal shall be attested by the signature of two members of the Executive Committee.

15. CUSTODY OF RECORDS

Except as otherwise provided in this Constituion all resources, books, documents, securities and documentations of the Society shall be kept at the Society, and shall be available for inspection by the members.

16. WINDING-UP OF SOCIETY

The Society shall not be wound up except:

(a) on a three-quarters vote in favour of doing so at an Annual General Meeting or at a Special General Meeting called for this purpose, and in either case at least 21 days' notice of the proposal shall have been given to all Financial Members, or

(b) in the event of membership being less than five persons.

The last General Meeting shall decide how the assets of the Society shall be disposed of but this must be done in accordance with the aims of the Society and Individual Members shall not receive any benefit.

AUSTRALIAN JOURNAL OF ECOLOGY

The Newsletter Editors have recieved a letter from Dr. C.M. Bull, the editor of the Australian Journal of Ecology, which reads:

> "I am writing to ask if you would insert in the newsletter of your society, this letter regarding the Australian Journal of Ecology. This journal is published quarterly by Blackwell Scientific Publications on behalf of the Ecological Society of Australia, has a wide ecological audience within Australia, an international distribution, and is widely abstracted.
>
> "I have, this year taken over from Dr. R. Whelan as receiving editor of the journal, and would like to alert or remind your members that manuscripts will be considered whether or not the author is a member of the Ecological Society. I am not trying to lure potential papers away from any publications of your own society, but to ask authors to consider the Australian Journal of Ecology as an alternative if they have a paper which may be suitable for a wider ecological audience.
>
> "All manuscripts should initially be submitted to the receiving editor: Dr. C.M. Bull, School of Biological Sciences, Flinders University, GPO Box 2100, Adelaide, South Australia, 5001.
>
> "Manuscripts are sent to at least two referees, often overseas. The acceptance rate of papers is about 50%, and the mean time between acceptance and publication is currently under 10 months.
>
> Abstracts of accepted PhD theses on ecological topics are also invited. These are published without review."

The Editors reply: We'll think about inserting this letter in the newsletter! There's another thorny question for ASL readers. While this is clearly a reasonable form of advertising, relevent to ecologists, how much and, if any, what guidelines should the ASL use for inclusion of such material in the newsletter?

THE DEMISE OF AWRAC: WHAT NEXT?

By Leon Barmuta and Rod Oliver.

The Land and Water Resources Research and Development Corporation (LWRRDC) is the body that will absorb AWRAC in July 1990. Earlier this year A.S.L. was asked to comment on a discussion paper circulated by the Land Resources Division of the Department of Primary Industries and Energy (DPIE). A summary of this document is provided below and is followed by A.S.L.'s response, drafted with the assistance of ASL executive members and the Society's Advisory group on Government Water Resources Policy.

Summary of the discussion paper

In 1990 the Commonwealth Government decided to set up a number of research corporations to supersede various government agencies such as AWRAC. The Government claims that corporations will "make their research and development system more responsive and dynamic" as a result of being relatively autonomous; i.e. the corporations will be freer of Departmental bureaucracy and able to raise their own funds. LWRRDC covers "forestry and vegetation research activities that directly impact upon water and soil resources", and will be predominantly funded by the Government, although the commercially-oriented research interests of the major urban water and irrigation sectors should eventually be met by their own funds. Its stated role is to "develop and implement a balanced research and development program for land and water resources and related forestry and vegetation management issues". The scope of anticipated activity includes the National Water Research Program and the research sub program of the National Soil Conservation Program. The emphasis of research funded by the Corporation is to be "the conservation and sustainable use and management of land, water and related resources". Existing projects will be continued, and priorities may change and the Corporation develops its corporate and operational plans.

Structurally, the Corporation will be governed by a Board of Directors who will be accountable to the Minister and the following "Representative Organisations": Australian Conservation Foundation (ACF), National Farmers Federation (NFF), National Association of Forest Industries (NAFI), Australian Water Resources Council (AWRC), and the Soil Conservation Advisory Committee (SCAC). These organisations will have considerable say in the priorities and plans implemented by the Corporation.

The Board of Directors is to comprise a Director, a government director (both appointed by the Minister), and between four and six other directors nominated by a selection committee. The Selection Committee will have a presiding member, appointed by the

Minister for a term of three years, and up to six additional members, appointed by the Minister in consultation with the Representative Organisations.

Under its Act, the Corporation has to have a five-year Research and Development Plan, which will be implemented by annual operating plans that will specify projects for funding in a particular year. The Representative Organisations are to be consulted when developing these plans.

The discussion paper identified the following priority research areas:

- use of pricing policies to promote sustainable land and water use
- development of flexible and robust systems of land use that are economically and biophysically sustainable, including whole farm management options for sustainable use and productivity growth
- social and institutional factors in achieving economic and sustainable land and water use
- implications of alternative irrigation policies for farm management, infrastructure requirements and regional change
- options and processes for managing economic and social change at the local regional level
- economic and sustainable resource use under saline conditions
- groundwater systems and processes
- investigation of the requirements for, and application of, low-cost water supply, wastewater treatment and disposal approaches and technologies for small urban authorities and rural locations
- indicator systems to assist with improved river basin management with particular reference to the management of instream and riparian resources, including wetlands.
- with special emphasis placed on pesticides, herbicides, organics, urban and industrial wastes and leachates from municipal wastes:
    - research into groundwater contamination processes with particular reference to processes and mechanisms by which contaminants enter surface and groundwater systems.
    - research into techniques for the management of groundwater contamination, and
    - research into contamination of soil by heavy metals
- opportunities for improved an disposal of urban and industrial wastewater and effluent, including the land disposal of effluent
- forest hydrology processes and their implications for changes in vegetation cover of catchment
- fire ecology and behaviour, including its effect on native grasslands, woodlands and forests, and the implications for water and land management

- ecological knowledge aimed at developing sound management practices for catchments and surface waters
- wildlife and habitat management
- improved techniques to secure more effective technology transfer in relation to integrated land and water management and to overcome impediments to more rapid and effective application of available technology, and
- strategies and applications for using information technology to achieve improved management in smaller water authorities.

Interdisciplinary studies, and those seeking partnership or other non-Corporation funding or support would be given relative priority.

COMMENTS FROM A.S.L.

28th March 1990

Mr. David Mortimer
Land Resources Division
Department of Primary Industries and Energy
GPO Box 858
Canberra
ACT 2601

Dear Mr. Mortimer,

Re: Land and Water Resources Research and Development Corporation

In my role as president of the Australian Society for Limnology I appreciate this opportunity to comment on the Discussion Paper concerning the proposed arrangements for establishing the Land and Water Resources Research and Development Corporation.

ROLE OF THE CORPORATION

The role envisaged for the corporation is a laudable one and this Society strongly supports the effort to "develop and implement a balanced research and development program for land and water resources". However, the ASL is still greatly concerned that the commercial focus engendered in the corporation structure is essentially unsuitable for research administration. This is evident in areas such as water quality and environmental management where the national importance of the research is unquestionable yet a distinct industry cannot be readily identified. It was with some relief that we noted the recognition of this reality in the Discussion Paper, which states that the corporation will be predominantly Commonwealth funded. Unfortunately, this clear and early recognition that

research activities which do not directly produce revenue are however critical components of the research effort, will not in itself ensure their continued support in the administrative structure of a corporation with a strong commercial viewpoint. The problem is further exacerbated by having within the same corporation, research activities with a clear industry connection, particularly as the corporation intends to give priority to research proposals utilising both corporation and non-corporation funds or linking with commodity corporation projects. The conflicts which are obviously inherent in this structure are of major concern to the ASL, and many of the comments offered below are given in the hope that these difficulties may be avoided.

STRUCTURE OF THE CORPORATION

a) Representative Organisations:

It is important that these organisations properly represent all facets of the research to be funded and managed by the corporation. The representative organisations currently proposed in the Discussion Paper consist largely of consumers of research and there is a lack of a strong scientific input from the ecological side, particularly with respect to aquatic environments. The ACF is a foundation with a very diverse membership, but most are not active research scientists. An appropriate body for scientific representation would be the Australian Society for Limnology which is the major national organisation representing professional water scientists. This Society strongly recommends that it be included as a Representative Organisation.

The role of the representative organisations is not completely clear from the description given in the Discussion Paper. Apparently they are to be consulted on the development of the R & D Plan and the annual operational plan, however the corporation will be accountable to these organisations as well as to the Minister. The communication linkages and reporting framework are clear but the meaning of the word "accountable" requires further explanation. For example, do these bodies have a veto role ? Accountability to this disparate group as well as to the Minister could be a recipe for disaster.

b)Selection of Directors of the Board:

The ASL believes that the structure of the Board of Directors will be instrumental in determining the success and support of the new corporation. It is imperative that impartiality is seen to operate and that the Directors be appointed on the basis of their extensive experience of research at a high level and their knowledge of the research activities to be managed by the corporation. The Selection Committee will ultimately decide the composition of the Board of Directors, and so its membership is critical if the integrity of the corporation is to be accepted. Undoubtedly the significance of the Selection Committee has not gone unnoticed and it is alarming that the Minister

may appoint all of its members directly. The advice he receives may well be influenced by the more powerful lobby groups and if care is not exercised, the character of the corporation could well be unrepresentative of the research sector. We trust that the membership of the Selection Committee will be open for comment.

SCOPE OF CORPORATION

As discussed above, the ASL is concerned with the inherent emphasis placed on "demand-driven" research by the corporation structure. Even in cases where this is totally unrealistic, and recognised as such in the Discussion Paper, the terminology still persists, and its implications hold grave consequences for the continuing and long-term need for strategic research to be undertaken in parallel with demand-driven programs. The corporation will need to address the requirement for long-term programs in many areas of water and land research.

The plan for the corporation to take over the management of existing national research programs for water and soil should certainly assist in a smooth transition to the new administrative structure. In the case of water, the transition will be from an effective research and development organization, the AWRAC, which has had many successes and was constructively improving its functioning by questioning its shortcomings in an open and enlightened manner. It is to be hoped that the many valuable lessons learnt during the surprisingly short existence of the AWRAC will not be lost to the new corporation. Unfortunately however, the history of science administration in Australia is riddled with examples where the clean sweep of the broom has simply meant starting all over again instead of building on past experiences. The ASL is keen to try and ensure that the move to the new corporation structure is a constructive one.

It is realised that the research priorities listed in the Discussion Paper are indicative only, but unfortunately they are a strange mixture of specific and global research needs, with some clearly being subsets of others. This list should focus on the broad research thrusts and be simpler, shorter and more succinct. In particular, in the study of natural systems there should be an emphasis on developing an understanding of the basic ecological and environmental processes and the ways in which human activities impinge on these. Although the research priority list is followed by the comment that inter-disciplinary projects addressing more than one of the priority areas could be expected to attract particular support, it would be valuable to include such possibilities in the list. This could easily be achieved by generalizing the research topics. For example, virtually all the research priorities which mention groundwater and/or soil should also include surface waters. The ASL believes that the research priorities urgently need to be reassessed and offers its assistance in attempting to produce a more suitable set of descriptions.

FUNDING ARRANGEMENTS

The discussion paper states that the corporation initially will share existing soil and water research and development funds across its broader program. The ASL sincerely hopes that this will not result in a cut in funding to water research as a result of the more diffuse focus of the corporation compared with the AWRAC. Any such downgrading of water research in Australia seems difficult to justify, particularly when funding is currently still inadequate for a national research program despite substantial increases over recent years by a Government cognisant of the importance of this field. Furthermore the source of the corporations operating costs, which are likely to include increased administrative overheads, have not been identified in the discussion paper. The ASL is alarmed at the potential reduction in funding for water research which may result from the move to a corporation structure. Any loss in research funding must seriously question the proposition that research and development corporations are the most efficient way to allocate research monies.

TRANSITION ARRANGEMENTS

ASL's concern that the considerable impetus and direction provided by AWRAC over the past 4 years may be lost, leads us to urge that the corporation continue with AWRAC for a period of time after the corporation is established.

The ASL hopes that these comments will be found useful and looks forward to a close and constructive association with the new corporation.

Yours sincerely

Dr. Rod L Oliver
President
Australian Society for Limnology

PRATTLE, RUMOUR AND SCUTTLEBUTT

Due the to obvious neo-colonialist implications for a world-wide organization like the ASL to have a news section devoted solely to State and Territory Affairs, the editors have decided to rename the section in order to improve the acceptability to those outside Australia (New Guinea, New Zealand, USA, GB, Camaroons - shame about the World Cup team!). The new name, we feel, far better reflects the aims of the Society and the goals (did you see the goals that Roger Miller scored! Go Camaroons!) of the Newsletter. A special elephant-stamp gold-star mention must go to the correspondent from New South Wales, John Hawking, without whose efforts, this edition of the newsletter would be very slim indeed. Congratulations John!

Of course, we expect the regular contributions from State, Territory and overseas representatives. In the world of word processing, it is a simple matter to have the titles of each section on file, just waiting for the copy. If there's no copy, the title stands alone - as you shall see. If we can't appeal to their sense of civic and Society duty, perhaps we can embarrass them into sending us the latest dope (no, not that kind) on what gives in the state.

VICTORIA

Correspondent: Leon Barmuta, Department of Botany and Zoology, Monash University, Clayton 3168 (Fax: (03) 565 5613)

First up, is there anyone else out there interested in this job? If so volunteer now.

Much has happened in the past few months, and some of it is interesting. Roger Croome at the RWC continues to out-Bellamy Attenborough with dazzling media displays of cyanobacterial blooms festering across several storages in Victoria, while Gary Benison and Vince Pettigrove have had fun hunting and finding endangered *Thaumatoperla* stoneflies in the Alps.

The Museum of Victoria has heaved a sigh of relief with the departure of the footloose Leon Barmuta who is now bothering rocks and lego bricks at Monash as part of an AWRAC-funded research fellowship on near-bed flow regimes. Meanwhile a project on wetlands of western Melbourne continues apace under Alan Yen and Richard Marchant's watchful eyes, and several staff have been caught secretly smiling about the news that the new Museum of Victoria building is really going to happen. It's just a question of which millennium.

At Monash, a cornerstone of Australian limnology has departed. David Morton, unassuming cyclopoid specialist, ghost-writer for Lake and Bayly, confidant of many graduate students, computer-whizz and all-round thug, has been dynamited out of his office and now rejoices under the title of nearly editor-in-chief or something of three CSIRO journals: *Invertebrate Taxonomy, Australian Journal of Zoology,* and *Australian Wildlife Research*. Dave's departure coincided with Leon's arrival (10 years later and he's back: run away!!) and with the construction of the brand new limnology lab that he so carefully schemed and plotted for. Everyone will miss Dave and we all wish him well. His new job seems ideally suited to him: he now gets paid to be rude to academics.

Daniel Simberloff, of Tallahassee fame, will be visiting Monash in July-August. Barbara Downes (565 5658) will have details of his movements.

At CIT, Kim James has started a new project looking at salinity and macrophytes and will shortly be looking for sites around Shepparton. Barry Hart and Rick Edwards have been in the States spreading the good oil at NABS; Barry is back, but Rick seems lost, but perhaps not for long. And the real hot gossip is that Ian Campbell will be getting married (truly!).

Back in the public sector, the Departments of Water Resources, Environment and Planning, and Conservation, Forests and Lands have now all been amalgamated into one super-mega-giga-department of Conservation and Environment. I think you can guess what most people's time has been taken up by in the last three months, and they're not happy. One day the state government will let its scientists do some science; then again pigs may fly or children will stop living in poverty. Nevertheless, by working late at night while nobody was looking, a few desperadoes have nursed to completion the former Department of Water Resources' *Environmental Handbook*, *The Environmental Condition of Victorian Streams,* and *Water for the Environment - Stage 1*. All three documents will be launched on 11th July, and mark a significant contribution to helping managers know what is happening to Victorian waters.

TASMANIA

Correspondent 1: Pierre Horwitz, Centre for Environmental Studies, Department of Geography and Environmental Studies, University of Tasmania, GPO Box 252C, Hobart 7001, Tasmania.

Don't tell anyone, but there was a fish kill on the Pieman River recently. Oh, the words out? Prominant *el vice presidente*, now in hiding, was quoted in a local rag as having talked about documents in the bottom draw, everyone else knew, and supersaturation. How's a

limnologist s'posed to keep a secret these days? Speaking of Inland Fisheries, Rob Sloane has gone his own way after heading the Commission clear for a demi-decade or so. We wish him well. Still at the IFC, Premek Hamar was recruited just in time to start the *Galaxias pedderensis* project (ANPWS Endangered Species) and if anyone has seen him anywhere, please let him know ...

Lake Pedder featured in the recent elections with calls for its draining, sparking much debate, but the proposal was not seriously considered by the relevant decision makers. One suspects, and hopes, that the idea will surface again. Also, the Wilderness Society bouyed by the continuing Tasmanian political situation, raised the notion that introduced species, including trout, should be phased out in the World Heritage Area but their ideas were dismissed as being "over the top" by those at the (very) top. Your correspondent thought the suggestion was quite reasonable.

Briefly, peat research in Tasmania is moving along quite nicely; at the Tasmanian Department of Parks Wildlife and Heritage, Michael Pemberton has initiated several projects on peat formation, peat ages and the effects of fire in buttongrass swamps. In the University's Department of Geography and Environmental Studies, Jenny Whinam has just finished her first Ph.D. draft on the ecology and conservation of *Sphagnum* peatlands, Kerry Bridle has just started her Masters on microbial ecology in peats, and Ian Thomas is doing a million things in swamps including dating sediments using C-14 and pollen.

In the Zoology Department, Alistair Richardson continues his work on *Parastacoides* taxonomy, and Stephan Eberhard is putting the finishing touches on his cave fauna tome (a work that is eagerly anticipated by many).

Correspondent 2: P.E. Davies, Inland Fisheries Commission, 127 Davey St, Hobart Tas 7000.

The far flung isle continues apace. At the University of Tas a number of projects are underway in the New Year. Roy Swain is undergoing a change of life as the prospect of freedom from years of School's Board slavery dawns and free time for research becomes a reality. He has an Honours student looking at toxicity of organophosphates to amphipods and *Paratya*. Alistair Richardson and Roy continue to look at litter processing in logged streams and cave fauna. Stephan Eberhardt emerged from a deep hole recently to write an assessment of mining activities on the Ida Bay caves, then abseiled back down again to hunt more bugs. Jean Jackson is writing up her Meistervurk on the Conoesucidae. Premk Hamr has submitted his thesis on *Astacopsis* and has been chasing *Galaxias pedderensis* around Lake Pedder with Inland Fisheries. This has been interrupted by a visit to Canada in search of home pastures as well as attendance at the Crustacean conference in Brisbane.

Pierre Horwitz is having more fun digging holes for pseudo-aquatic crayfish in the North East, putting the finger on the effects of angling on freshwater lobsters and paddling around in salty pools by the waters of Tasmania's famous sewer, the Derwent. All this enjoyment is slightly dulled by the battle for the continued existence of the Centre for Environmental Studies where he now lectures.

Inland Fisheries run amok as usual, with Wayne Fulton as Acting Commissioner. Problems with fizzy water from hydro dams killing fish, the political perils of a potentially polluted pond (the ex-King River now be-dammed), Tasmania's first real case of eutrophication (Lagoon of Islands), foresters' attempts to restructure streams both physically and chemically, even the Green's determination to wipe out that honorary native and "poison de noblesse", the brown trout, are plaguing the lads and lasses of the IFC. Stuart Chilcott is delving into mayfly life-histories. Instream flows have suddenly landed on the agenda in an alarming fashion - to PHABSIM or not to PHABSIM: that is the question! (IF I'M correct it will only be a TENNANT'ive solutions - sorry, just an 'instream' joke). (We're sorry too; d'you wanna doorprize or something? - *Eds.*) IFC was visited by another hard-working German volunteer stream-gauger and fish marker over the summer, who also cooked a mean vegetarian meal.

Several visitors have been spied. Richard Tilzey lurks on the smoky horizons of various bars mumbling things about Orange Roughy and dreams of Lake Eucumbene, while Graeme Edgar appears furtively at the same bars pretending to analyze the hydrology of Bathurst Harbour.

Those august denizens of the boundary layer, Jenny Davis and Leon Something (we'll let that past - *Eds.*), skimmed in for a chaotic look at habitat requirements of yet-more-bugs at Cradle Mountain and are now awaiting the breaking of IFC's own style taxonomic barrier on the samples they produced. Warm noises were made about collaborative projects in search of higher truths, and something about money!

Steven Smith, zoologist for the World Heritage Area, is organising a symposium on "Tasmanian Wilderness: World Heritage Values" in November, to which a number of ASL members are invited to speak or give posters. Attendance is encouraged by anyone interested. Phone (002) 30 6160 for details.

Editors note: Actually, **Pierre Horwitz** has been dobbed to be gossip columnist from now on. He can be contacted at the Centre for Environmental Studies at the University of Tasmania. Lucky Pierre. Don't you guys down there ever talk to each other?

SOUTH AUSTRALIA

Correspondent: Naomi Rea, Department of Botany, University of Adelaide, G.P.O. Box 498, Adelaide 5001 (Fax (08) 232 3297)

A lack of limnological news in S.A. might reflect the lack of rain and pending drought here or perhaps my fringe-dwelling existence in the Adelaide Hills where I am writing up while lying down. A stuffed back can stop travel to Jabiru but not from writing thesis, etc. The River Murray Lab (Zoology Dept, Adelaide Uni.) continues to explore the effect of water level fluctuation and high turbidities on the aquatic river-edge environment of both the main channel and floodplain wetlands. Fran Sheldon has also instigated a biological monitoring project of the Finniss River for which quarterly surveys of aquatic flora and fauna are being made. The Department of Environment has just begun a 3-yr project on wetland rehabilitation in the Riverland. Marcus Bronlow (Botany Dept) has initially taken a macro perspective in looking at the significance of water level fluctuation on emergent vegetation, by classifying a large number of wetlands in the South-east. George Ganf has been busy writing and writing...

The Australian Society of Phycology and Aquatic Botany (ASPAB) are having their 1991 conference in S.A., most probably in the Botany Dept at Adelaide University from 15th-17th July. The theme is "Biology, Ecology and Human Associations", the latter including water-supply, engineering and aquaculture. There will be sessions on wetlands and some attempt to boost the freshwater element of this society. Post-conference field trips (3-5 days) are being arranged.

NORTH QUEENSLAND

Correspondent: Ros St Clair, Zoology Department, JCUNQ, Townsville 4811 (Fax: (077) 25 1570)

In the far north, the Burdekin River catchment remains the most popular place for limnological work. In the upper catchment a geologist, Chris Cuff, has joined the multidisciplinary team blitzing the upper reaches of Birthday Creek (clearly the Acheron of the north - *Eds*). Jacqui Coughlan is finishing her honours work on the population biology and trophic ecology of the freshwater crayfish, *Cherax* very *depressus* Riek, linking her results with previous and continuing information on litter dynamics in and around the creek.

Slightly downstream, but still in the cloudy highlands, Steve Richards is working on population dynamics of tadpoles, wide-mouthed jobs with anti-cyclonic rach suction grates (no, we're not sure what this means either - *Eds*). At the same site, and another nearby, Ros St Clair is concluding a life history study of caddises. These areas have also been used as sites for litter breakdown studies and recently Lee Benson and Richard Pearson swapped yummy Qld leaves for tasteless Victorian ones belonging to Ian Campbell. The results of the latitudinal comparisons of breakdown rates will depend partly on whether the floods hit both areas at about the same time.

Lower in the Burdekin catchment, Bob Congdon is continuing his monitoring work on the effect of irrigation water on the Baratta Creeks, while John Faithfull, Dilwyn Griffiths and Richard Pearson are monitoring water quality in the Burdekin Dam.

Two wider-ranging studies (but still including some Burdekin catchment sites - they're hard to avoid around here) have started this year. The first is a study of the community ecology of waterfalls by Paul Clayton. Ever tried using a current meter in a waterfall? The second is a pilot study to classify streams in the World Heritage Rainforest by Richard Pearson and Ros St Clair. At present, the classification is based on landforms, but we will have to get our feet wet soon.

Way out of the area, but still associated with James Cook University, Kevin Boland is comparing the limnology of two lakes at Mt. Isa.

NEW SOUTH WALES

Correspondent: John Hawking, MDFRC P.O. Box 913 Albury NSW

It is refreshing to discover that "Limnology" is still alive and well in NSW, with this fact being clearly demonstrated by the excellent reports from the following Institutions. (*Editors warning:* Take a deep breath and find a comfy chair before tackling this report).

SYDNEY WATER BOARD

Scientific Services is presently undergoing a reorganization which aims to separate analytical and functional groups. Arising from this is a change in emphasis to specific project work allowing a better understanding of our aquatic systems and thus what we should be doing to maintain them. In the process however things are in a bit of a whirl with no-one knowing who to call boss! Anticipating the imminent arrival of Dr Bruce Chessman as our new Section Leader, thus marking the end of our "limbo status".

Since the February newsletter not much has changed within the Stream Studies Group, workwise. We are still ploughing through the sorting and identifications of the benthic samples taken for the creation of our biotic index and associated water quality groupings. All members of the group are at the number crunching stage, looking for trends in our physico-chemical and bacteriological results. Hopefully by the next newsletter we will have started tying this in with the biological data. A timely occurrence as this work will be of great value to assess the impact of redirecting effluent from the numerous small Sewage Treatment Plants to Winmalee and the Nepean.

Derek Cannon (and whoever he can con into it) are verifying the 13 year data set on the Nepean/Hawkesbury river system. This data is presently being used by consultants for EIS's such as that for the Winmalee Treatment Plant. In association with this is algal growth potential work being done by Masters student Lisa Ashton. This data is earmarked for modelling of the catchment, to identify stress factors and ultimately influence future development of the region.

Louisa Vorreiter's group are presently monitoring streams running through the new residential development areas in Macarthur South, South Creek and Rouse Hill. They aim to assess the impact of these developments and influence water quality management. Narrabeen Lagoon is being studied to identify causes of sedimentation problems. The impact of sewer overflow and general water quality are being assessed in the Lane Cove and Georges River.

CSIRO DIVISION OF WATER RESOURCES, GRIFFITH

News from busy Griffith is that Stefan Pasma, a student from the University of Wageningen in The Netherlands. has arrived for five months' work experience. He will be working with Jane Roberts, writing a water management plan for the Wanganella Swamps near Deniliquin.

Wolfgang Korth has synthesized deuterated forms of geosmin and 2-methyl-isoborneol. These isotopes can be used as internal standards for quantifying these odour compounds in drinking water. He is now investigating the market for commercial sale of the isotopes. For further details, catch Wolfgang's paper at the Third International Symposium on "Off-flavours in the Aquatic Environment" (seriously!) in LA next March.

Professor Ian Falconer (University of New England) will be visiting on June 5th to give a seminar and meet with Wolfgang and Gary Jones. They will discuss the biochemistry of toxic Cyanobacteria and Gary's project on this subject.

Research on herbicides in aquatic systems continues apace. Recent external funding from DuPont is supporting work by Geoff Sainty, Geoff McCorkelle and Kath Bowmer on benslfuron. Phil Eberbach's project on the translocation of glyphosate in Alligator Weed (which also involves visiting scientist Lars Andersen, Davis University, California) is nearing completion. Sadly, Phil will shortly be leaving us for a lectureship at Charles Sturt University, Wagga.

Geoff Sainty has also recently attended the Australian and New Guinea Fish Association,s meeting in Brisbane, where the gloomy prospects for our native fish were highlighted. Kath will be attending the upcoming International Conference on Biological Nutrient Removal in Bendigo (July 9th - 12th). She will be giving a review paper (co-authored with Peter Laut) on the prospects and dilemmas for biological nutrient removal.

The use of aquatic plants to treat wastewaters is still a major project at Griffith. Alan Heritage, Brian Sorrell and Philip Orr will also be at Bendigo, reporting recent work on pH and oxygen changes around roots. Alan Chick (now located in the warmer climes of Coffs Harbour and Port Macquarie) and David Mitchell (MDFRC) continue "scaling up" wetland filters. Their work continues that of Peter Breen (tragically lost south of the border). A joint venture company CASSIRO (between G. Cassegrain and Co. and CSIRO) was set up recently to oversee the development of the patented wetland system.

Finally, also in the wetland field, Janet Dunbabin (now at the Dept. Ag. & Fish., Deniliquin) had her thesis "Metal Removal from Mining Wastewaters using Artificial Wetland Filters" passed recently by Macquarie University.

DEPARTMENT OF APPLIED BIOLOGY, UNIVERSITY OF TECHNOLOGY SYDNEY

Rod Buckney will be doing a quick, but extensive evaluation of the chemistry of streams of the Sydney Basin (for the State Pollution Control Commission). He and Andrew Le Brocque, are also studying the inputs of urban runoff on terrestrial vegetation.

Warrick Hayes, a chemistry graduate has commenced his PhD study with Rod Buckney on substrate-water interactions determining the availability of metals and nutrients. He will be working on a number of Sydney streams.

Sarah Rish, an Honours student is examining the limiting nutrients in some Sydney streams with Rod. She'll be using algae (*Chlorella*) and duckweeds as test species.

Dominic Cheng has been studying the effects of urban pollution on reservoirs and coastal lagoons, and developing management strategies. He also has been conducting experiments on the effects of nutrients on algal growth.

John Skidmore is currently involved in ecotoxicological problems related to the chemical industry. He also has a continuing interest in mining and other human impacts on Kakadu National Park.

Richard Lim has been studying the effects of pollution on invertebrates in some streams of the Sydney Basin. This includes looking at invertebrate communities in streams flowing through a variety of landuse types (funded by the State Pollution Control Commission), and colonisation studies in polluted and unpolluted streams. He and Rod have recently initiated a study on the effects of urban development in the headwaters of the Hacking River on river's aquatic and riparian communities within the Royal National Park.

Not only do members of the School of Biological and Biomedical Sciences have an interest in limnology, but have also strong interests in aquatic ecotoxicology. This has led to the setting up of the Centre for Environmental Toxicology by the SPCC and the university. This centre, located at the Gore Hill campus of the graduate and undergraduate students. A number of ecotoxicological projects are currently underway.

Staff members, together with members of ANSTO, SPCC, and CSIRO are also organising the 2nd Trace Metals Conference on Aquatic Systems to be held in mid-July at UTS.

UNIVERSITY OF WESTERN SYDNEY, HAWKESBURY

Not a lot of 'real' limnology but quite a bit of water quality work is going on. The department is involved in providing water quality monitoring for the Hawkesbury Nepean River in collaboration with the SPCC.

John Bavor is still investigating wetlands, at Byron Bay, Minmi, Newcastle and locally at Richmond. The Water Research Laboratory is also working with the SPCC in an innovative 'Surface Microlayer Project'.

THE UNIVERSITY OF NEW ENGLAND, ARMIDALE

There is a small group of aquatic ecologists who when at home hang out in the Botany Department at the University of New England, Armidale campus. Interests are diverse but tend to centre on the ecology of plants in temporary and permanent wetlands.

Margaret Brock has particular interests in life history adaptation of aquatic plants in temporary waters and responses of plants to environmental fluctuations and unpredictability. Research revolves around using field transport experiments in local wetlands and lab and greenhouse trials to examine the responses of particular species. It all helps to keep us cool and submerged in summer and frozen in winter! However,

Margaret has been away on study leave from August 1989 to May 1990 and Kevin Theodore and Michelle Casanova have been left to keep our plants under surveillance and the home fires burning. Kevin has been continuing field and lab germination studies and is becoming our resident expert at recognizing aquatic species at seed and seedling stages, an invaluable talent as we move further into seedbank work.

Michelle Casanova's project on the ecology of charophytes keeps turning up new things Her latest is the rediscovery of *Nitella hookeri* which was last recorded in Australia by Ferdinand von Mueller last century. Lovely scanning electron microscope pictures of charophyte cospores adorn our walls and will hopefully be shared with you in a journal soon.

Meanwhile Margaret Brock has had a lovely time being everywhere else but at home. August was spent in the Camargue in the south of France looking at aquatic plants in permanent and temporary fresh and saline wetlands with Patrick Grillas at Tour du Valat biological research station and at the SIL meeting in Munich. September to January based in Britain at the University of East Anglia provided time to explore the Norfolk Broads, the Breckland Meres and various other waterbodies. Margaret also worked with Hugh Dawson at the Institute of Terrestrial Ecology in Dorset where Crassula helmsii (the one aquatic weed Australia gave Britain) was the subject of experiments. Then a quest to examine other southern hemisphere temporary wetlands took her to work with Kevin Rogers on the floodplain of the Nyl river, in the summer rainfall savanna lands of southern Africa. Seedband (Que? - *Eds*) germination trials from parts of the floodplain with different wetting and drying histories produced interesting results. Now she is getting her feet wet again back in the best continent.

MURRAY-DARLING FRESHWATER RESEARCH CENTRE, ALBURY

Rod Oliver is now leading a more relaxed life after his hectic 10 months stint as President of A.S.L., possibly a record for the shortest Presidential term. John Hawking managed to suffer an extra two weeks at Kakadu, after A.S.L., thanks to O.S.S. John is working on a guide to the odonate larvae of the Alligator Rivers Region for which he collected many unknown odonate larvae. These have been reared through to the adult stage, with Peter Dostine's help.

Harry Casey, a well known English inorganic chemist and keen fisherman is presently our visiting research scientist. He will undertake research work at the Centre until the end of November. Harry is a survivor of The Iron Lady's purge against Limnology and is stationed at the Institute of Freshwater Ecology's (formerly the FBA) River Laboratory in Wareham, Dorset. Harry has conducted research into and published on plant nutrients, with the major emphasis on nitrate problems, and the operations of large (50m)

experimental laboratory streams. He will conduct collaborative research on plant nutrients in the Murray-Darling Basin and interact with Barry Hart on flow-injection analysis.

David Mitchell has just returned from a four week visit to Africa. He spent two weeks in Zimbabwe where he attempted to fly to the Lake Kariba Limnological Research Station only to find that President Mugabe, otherwise known as "muggers", had commandeered the plane for electioneering. The remaining time was spent in Botswana consulting on water weed problems and during this time visited the Okavanga Swamps.

NSW AGRICULTURE & FISHERIES, NARRANDERA

A gentle prod from John Hawking (with what? - *Eds*) has resulted in the latest news on what is happening at IFRS. Plans for new buildings have been formally buried with as little ceremony as possible, and we are all mightily proud of the facelift which has breathed the breath of life into our once-haggard accommodation. Work at IFRS is now in Fast Forward, with a new library and conference room, computer room, new offices overlooking the majestic Murrumbidgee floodplain and new amenities. The beauticians have done Chenille's Institute de Beaute proud!

Stephen Thurstan has successfully wrapped up yet another season of breeding native fish. Approximately 400,000 golden perch, 180,000 silver perch and 25,000 Murray cod fingerlings were stocked from the station into various impoundments throughout the state. At the same time, he continues his research into the impacts of insect predation in fry rearing ponds and improving techniques for fish production. Well done Steve!

Brett Ingram has also completed his endangered/threatened species breeding program for the year and is processing and writing up several years of data on Trout cod and Macquarie perch. Brett has accepted an offer to work in Victoria at the Snobs Creek and leaves us at the end of June.

Peter Gehrke is trying to untangle differences in phototactic responses of fish larvae between laboratory experiments and floodplain simulations to find out where they hide in real life. The aim is to come up with a model capable of predicting local occurrences of fish larvae. Could anyone finding fish *larvae* anywhere in the Murray-Darling Basin please let me know. The Flood-Recruitment Model is alive and well, all we need is some data to join the dots!

Why, oh why, are we waiting? Perhaps we can understand the Northern Territory's lack of mail - the conference and all, but .....

SOUTH QUEENSLAND

Correspondent: ???

WESTERN AUSTRALIA

Correspondent: ???

NORTHERN TERRITORY

Correspondent: ???

AUSTRALIAN CAPITAL TERRITORY

Correspondent: ???

PAPUA NEW GUINEA

Correspondent: Paddy Osborne, Biology Department, University of Papua New Guinea, P.O. Box 320, National Capital District, Papua New Guinea (Fax 675 24 5187)

Phase One of the Sepik River Fish Stock Enhancement Project has been completed with the production of a report assessing fish species suitable for stocking the headwater streams and others for colonising the lower floodplain reaches of the river. The proposal on whether to proceed with further fish introduction(s) is now under consideration by the National Executive Council (Cabinet). This project is being funded by UNDP and executed by FAO and is being co-ordinated by Dr David Coates, Chief Technical adviser, c/o Department of Fisheries and Marine Resources, P.O. Box 165, Konedobu, NCD. As part of this project, Dr David Dudgeon (University of Hong Kong) is currently analysing faunal samples from the Sepik River and its tributaries. Basic water chemical data of this vast system are being analysed by Dr Tomi Petr, David Coates and myself.

Potential limnological projects abound in PNG - with its 5000 lakes and two of the largest rivers in the world - and all this lies just a few flying hours away from the driest continent. There are even opportunities for research funding. The Christensen Research Insititute in Madang offers a limited number of fellowships of up to six weeks duration for

biological research projects. Funding includes air-fares, accommodation and access to the fine laboratory facilities at the Institute. One project currently being funded by the Institute is on the fauna of a calcium-rich stream littered with freshwater stromaltolites. The Institute is publishing Gerald Allen's treatise on the freshwater fishes of New Guinea, and this will be available at approximately US$15.00 some time next year. It is lavishly illustrated. A colour poster of the rainbow fishes of New Guinea is currently available from CRI for appoximately AUD$7.00 (including p & p); write to Dr Matthew Jebb, Director, CRI, P.O. Box 105, Madang, PNG for further information.

Papua New Guinea has been inundated with consultants from nearly every major aid donor over the last few months all desperate to give substatnial funds for rain forest research and conservation. Project proposals include paired catchment studies to assess downstream effects of logging tropical rain forestes and the evaluation of sites which may be suitable for World Heritage listing. One such site under consideration is Lake Kutubu and its catchment in the Southern Highlands Province. Robin Totome and I are currently analysing data on water and sediment chemistry from this oligomictic lake.

Water Hyacinth is causing some concern with its rapid spread over the last few years from a few ponds near Wau to all wetlands along the north coast and its invasion up the Sepik River to the Chambri Lakes. It has recently been discovered in wetlands along the south coast and this week was found for the first time in Waigani Lake. This has prompted a flurry of activity to collect sediment samples and cores from the sewage-enriched Waigani Lake before it becomes choked with this weed. The spread of this weed follows closeley on the dramatically successful biological control of *Salvinia* in the Sepik, and if large mats *Eichomia* develop it will affect more severely the lives of Sepik villagers than the former infestation.

PNG's limnological database is rapidly expanding through the efforts of environmental sections of major mineral and oil exploration and development companies. Ross Smith from Ok Tedi Mining Limited writes:

"We are still in the process of ironing out the kinks in our new sampling programs, especially (dare I say it?) the estuarine and marine parts. At least the rainfall is high enough in Tabubil to wash off the salt and leave us looking limnological shortly after returning. After trying airboats at Jabiru, we have decided to use a helicopter with floats for our floodplain sediment sampling program. Tom Morris tells me that in some places the floating grass was higher than the helicopter, which made landing interesting! Landing a chopper in the middle of the river and leisurely taking a water sample is certainly preferred by the environmental chemists to hovering with a nervous pilot in an aircraft that does not float (as one of our pilots found out recently in the Fly Delta; luckily he was a good swimmer, and avoided the crocodiles for the four hours he was in the water).

"Speaking of not floating, Barre Kare and Yarang Kurtama have recently perfected the art of deep diving in aluminium dinghies, although George Olmokeng was not impressed apparently. Despite losing their boat they still caught a lot of barramundi, which shows they have their priorities right. In fact we are catching so many barra that my models are under-predicting, but I guess I can live with that. The measurements of suspended solids and copper in the river system are below our 1988 forecasts which is also good news. On the down side, two of our most important sampling sites are now the subject of compensation claims by landowners, but so far it just involves talking and waving bush knives with no actual violence.

"There have been a lot of staff movements here recently. Andy Maie and Jetrapa Tinkerame have gone to the University of Papua New Guinea on company scholarships to improve their qualifications and Barre Kare will spend the rest of the year at James Cook University completing a post-graduate diploma in tropical ecology that he has been studyin externally. Jim Tait will be joining us from Townsville to fill in for Andy Maie, and it looks as though Richard Pearson will be providing us with a fill-in for Barre. NSR in Melbourne have been contracted to do some floodplain sediment sampling for us, and they in turn will use Chisholm for some of the analyses. It's a small limnological world."

NEXT YEAR'S CONFERENCE VENUE

As you may be aware, the ASL conference for 1991 is destined to be held in Victoria. Initially, the organizers had three choices of venues - Monash University, Marysville (just near the Acheron River), and at Erskine House in Lorne (site of a previous conference). Unfortunately, there is insufficient room in Marysville to accommodate the predicted size of the conference, and accommodation around Monash is also a problem (besides, who wants to have the conference in a fairly ugly big city like Melbourne). It has therefore been decided to return to Lorne (obviously we weren't bad enough last time), a pretty town south-west of Melbourne and no-where near the Acheron River (although the Otway streams are close by). And accomodation is no problem, with rooms on site and two caravan/camping areas within crawling or swimming distance.

The proposed dates for the conference are the 12-15th July, part of the common University breaks. It will be cold! It will be wet! It will be windy! But it will be fun (oh, and informative)!

CALL FOR JOLLY AWARD NOMINATIONS

The Jolly Award commemorates Hilary Jolly, a founding member of the Australian Society for Limnology and is presented to a person who in the opinion of the Society, has made an outstanding contribution to Australian limnology. The Jolly Award has become the Society's most prestigious prize. considered by members to indicate overall scientific excellence and outstanding achievement.

The regulations concerning the structure and function of the Jolly Award committee, and covering the nominations of persons for the Jolly Award appeared in the last edition of the newsletter (Volume 28, No. 1, February 1990). In brief, any person may be nominated by a financial member of the ASL. Nominations must be seconded and include a brief supporting statement and the nominee's current CV. Each nomination remains valid for three years, after which the nominee can be renominated.

Nominations for the 1991 Award are now called for and should be forwarded by the end of July or early August to:

Dr. I. C. Campbell, Centre for Stream Ecology, Department of Chemistry and Biology, Chisholm Institute of Technology, P.O. Box 197, Caulfield East, Vic. 3145. (Fax (03) 211 3646)

THE JABIRU REPORT

We herein present reports on the recent ASL Annual conference, held among the delightful, and often dark, surroundings of Jabiru, between 20-23 April, 1990.

ASL Caption Competition: Unfortunately, the editors can't seem to find an appropriate caption for the photo that appears on this page. Any newsletter reader who can think of something that can be published, send it to the editors. Those appearing in the said photo are ineligible. A suitably inappropriate prize will be awarded to the winner - an ASL mug from Albury if we can find one. The editors' decision is final (oh, the power!) and any correspondence entered into will be published.

1990 SYMPOSIUM/CONGRESS IN RETROSPECT

By now, the majority of Symposium and Congress attendees should be solidly entrenched in the hum-drum normality of their everyday lives. What was that thing we went to in April ... yes, the place with the horrid mosquitoes and erratic power supply. Ahh ... yes ... Kakadu ... if only I had spent more time etc. etc.

Well, in retrospect, and with the added input from a few of the delegates, here are some points to muse over whilst bumper to bumper in the rush hour traffic:

- Because of the uniqueness of the area, the diversity and the scale of these wetlands, it was felt that a pre-symposium field trip would have been an advantage, with either

  i) Yellow Waters field trip at start
  ii) Yellow Waters field trip between Symposium and Congress
  iii) airboat trip between Symposium and Congress

- Another suggestion was made that this would have been an ideal area to conduct some workshops, particularly where discussion would culminate with hands-on (or foot-in) practicals (presumably this would be in the context of new sampling methods, or something for special interest groups e.g. microinverts, algae, method ecosystems (?? - *Eds.*).

These ideas could not have only been applied to the Jabiru conference, but to future ASL meetings in areas of special interest or debate (e.g. Tasmania).

Those of you at the AGM would no doubt be aware of a suggestion to hold ASL conferences in conjunction with other groups (e.g. AMSA). This has been done by other associations with some success. On a smaller scale, combined events with local area interest groups such as aquarists, field naturalist clubs etc. would lift the society's profile! From the point of membership, ASL could draw on bodies such as the Fresh Water Aquaculture Association, Marron Growers Association etc.

It was also suggested that poster sessions could be utilized at Jabiru to allow more time for speakers. This had been discussed by the committee; however, it was noted that posters were underutilized by ASL delegates at the 1989 Canberra conference, and because of limited space at the Crocodile Hotel, it was decided not to have posters at Jabiru. The use of poster sessions at future conferences will need to be addressed by the prospective conference committees.

As always, such events are at the mercy of time ... personal time, time of the year and time as money. Holding the last conference at Jabiru in June/July would have made accomodation impossible due to the cost of the venue and tourist influx. However, I think it was generally agreed that a more suitable time for such events would be the common university break.

(Geez, Michael, don't be so glum! We had a lot of fun - *Eds.*)

IN GRATITUDE TO PATIENCE

(or an ode to an ASL T-shirt)

O where O where have my T-shirts gone,
they were once promised to thee.

I've had tales o' misfortune wit some disproportion,
since they were once promised to thee.

Twill be "right by Fridy nite",
was said when promised to thee.

Now time dost March, April and May,
and yet thou hast not embraced thee.

But patience is a virtue ...,
now that we are enpost to thee.

Michael Mannion
SSARR

(Keep your day job Michael. The T-shirts have arrived, and a snappy little number they are too - *Eds.*)

THE ASL CONFERENCE

This was the first ASL conference I have managed to attend, along with me were a gaggle of veterans and "first timers" from Murdoch University. The ASL student travel awards were probably instrumental in allowing Ivor (Growns) and myself to attend and were greatly appreciated.

The venue in Kakadu National Park, inside a 400m kitsch crocodile had raised all our expectations of the conference. Reactions from the Murdoch gaggle were mixed to all three, the tastefulness of the hotel was called into question by many, but for my part I thought it was a "neat" idea. Kakadu was totally different and much drier than most of us expected, but looked an interesting site for field work if croc wrestling is your thing.

The conference: initially it was slightly disappointing that several well known limnologists were unable to attend, but that's life I suppose. As students unable to afford breakfast, the insufficient quantities of cream and jam at morning tea while not diminishing the number of scones devoured, did serve to reduce their nutritional benefit. What can be said of the downstairs conference room that can be printed, let it suffice to say that I was glad my talk was upstairs. Several talks stood out, Tony Underwood's talk was, for me, one of the most interesting and thought provoking, Paddy Ryan's talk on crab megalopea demonstrated that "hands on" limnologists thankfully still exist and reminded us that limnology is basically satisfying one's curiosity. While most of the other talks were scientifically interesting, personally it was disappointing to listen to many talks low on scientific content, high on administrative, or political, or management jargon (not to mention acronyms). Finally, does everyone work on running water? Lakes can be interesting as well. The conference left me and others at Murdoch enthused, and for that reason most of us would consider it a success. Therefore many of us have made a commitment to attend the 1991 ASL conference.

Mark Lund
Murdoch University

(What's this "low on scientific content", or should we say, LOSC, caper? ... and we let this ingrate win the student prize? - *Eds.*)

ON THE ANNUAL QUEST FOR TAKE HOME MESSAGES

(Impressions from a sleep-deprived researcher)

I guess there were plenty, nonetheleast the key note sessions in which the conceptes behind biomonitoring were given a fairly rigorous shake. Uppermost here were the views and panache of an eloquent marine scientist (how did he break that overhead projector?) who gave me three clear messages: biomonitoring is treated far more superficially by most than its theoretical undertones demand; why shouldn't limnologists use Warwick's biomass/species rank curve for benthic samples; and the perhaps not-so radical thought - the Uncertainty Principle (whatever we measure we influence) and to the manipulators this principle could be disturbing.

There were take home messages from talks relevant to the individual (i.e. me) but not neccessarily to the group; so there are other people working on bank erosion, subterranean sediments and faunas, and it was good to hear of red claw, odonatans and esturine shrimps, amongst others. This, to me, is the unfailable (wow, is this a new word? - *Eds.*) value of conferences. It was also fascinating to get a run down on some northern problems like *Mimosa pigra* and *Bufo marinus*. These highlights may not be everyone's, because of particular biases. Any way of broadening these biases through semi-formal discussion groups like **"the wetlands research in each state"** must be judged positively; the organizers for this initiative ought to be applauded accordingly.

But one person's impressions can only be a maximum of just over half of the conference and that inevitably brings us to the unanswerable questions of the value of concurrent sessions, and 15 minute talks when we gambled on 20. When the frustration experienced by the speaker in trying to introduce a different topic, the results and then the speculative discussion, is eclipsed by the frustrated attempts of the audience to comprehend six such talks since that last horrible cup of instant coffee, then perhaps we need some changes to the tried and true ...

The past president's idea of broadening the discipline base every two or three years came as a refreshing alternative; I hope it can be done without becoming an organizational nightmare. Posters have their drawbacks (who would want to lug one from Hobart to Jabiru?); these could be outweighed, as suggested frequently, by scheduled poster sessions with a strong emphasis on feedback. This might free up time to make each talk of 20 minutes duration.

On the topic of organization, the conference went without a hitch from my distorted perspective, even to the extent of scheduling a blackout for those who had no bathers.

Certainly the conference was all the more memorable and enjoyable by the geographical and meteorological settings. However, the contrast (to an ignorant southerner) between the group of people under the tree and the other in an air-conditioned crocodile was too much even for the acutest binge to eradicate from memory. All the more relevant in a World Heritage Area where we grapple with monitoring disturbances, but rarely seek first the answers to "what values doe we (should we) retain?"

Pierre Horwitz
University of Tasmania

REPORT OF THE 1990 DOOR PRIZE COLLECTIVE

This year's door prize collective was faced with a difficult task. An unprecedentedly large number of contestants remained steadfastly sensible even under the influence of excess alcohol and heat. Nevertheless the collective, consisting of Tim Doeg, Jenny Chaplin and Leon Barmuta with Jane Roberts and Sam Lake acting as senior consultants (they were paid off with Twisties) managed to assemble a respectable list of citations. In ascending order of merit they were:

The numerous speakers who made fairly terrible jokes about being inside the alimentary tract of a crocodile. Mercifully, the frequency of these comments declined as the congress wore on, although the Collective wondered whether these rude comments influenced the hotel management's decision to provide jam for the scones in concentrations several fold lower than that of radionuclides discharged from Retention Pond 4. However, the Collective asserts that the architects of the Four Seasons Crocodile Hotel deserve a special place in obscurity, or somewhere worse, and have given them the inaugural Sydney Opera House Award for Rotten Acoustics.

Paul Boon took out the Oscar Wilde Citation for Very Low Puns for attempting to convince us that "cultured bacteria have not been to the opera". Pierre Horwitz replaced Hobart by a casino on his slides and added a real crushed chironomid to one of his overheads: an interesting use of mixed media. Sam Lake and his amazing rustling Target bag was nearly as pervasive a presence as Peter Breen, who took out the Blarney Award for asking too many questions. Apart from these two notable exceptions, the audiences were well behaved, even during the annual dinner. T. Doeg, P. Ryan, N. Hill and J. Hawking will be relieved to know that activities after the dinner were deemed outside the Collective's jurisdiction. M. Finlayson is merely a hopeless exhibitionist (see photos in this issue) and was disqualifed for trying too hard.

However, Paddy Ryan deserves special mention under the Boy/Girl Scout Zealotry Section for his novel use of a Swiss Army pocket knife, a 1 m piece of rainforest and an automatic timer on his dive watch for the investigation of crab larvae.

When all was said and done, three candidates stood out in everyone's mind, despite Sam Lake's desparate post-conference skirmishes with a water python, a fishing lure and any foodstuffs he tried to eat. Jan Shaw made the strongest showing by a public servant by asserting that water was a threat to wetlands, followed by a display of telephone skills in the subsequent seminar that did not involve a mobile phone. Style! Dr Tony Underwood was commended in the Services to Audio Visual Aids category by duelling with an overhead projector - and winning.

The clear winner of the 1990 Door Prize, however, was John Bywater whom many will remember fondly from the Narooma Congress nine years ago. For those who missed out on his presentation, John scored highest points in the following categories: W. Ponder Memorial Prize for High Speed Slide Showing (approx. 3 nanoseconds per image), the Undergraduate Award for Talking to Walls Rather than the Audience, the Imaginative Modelling Section (two models were presented, one being a 90-degree rotation of the other) and the Polemics Prize. He also distinguished himself by brandishing a bottle of invertebrates and a buffalo horn at the audience, and crammed all of this and more into a mere seven minutes. A sterling effort unlikely to be surpassed for many years to come.

Pictorial Essay - Jabiru 1990

Now, if I was to put all you through a Monte Carlo, delete a few outliers, then ....

... no, it's too horrible to think about ....

No. Can't think of a caption for this one either ...

Two bacteria went to the opera. And the first bacteria said ...

What, no swimming pool!

Smile, you're on ASL camera.

Camera shy? Who, us?

Camera shy? Who, me?

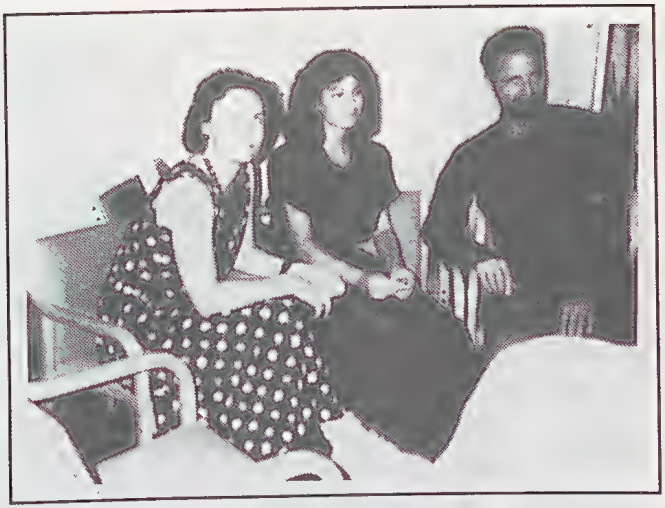
The blind stealing from the blind?

There's just too much water in these wetlands!

Now who's this D.M. Scienceperson?

Yet another captionless photo

.... the ASL Simon Says competition ...



Would you buy a used wetland from this man?

If that guy tells one more crocodile joke!

Now, this little number has fabulous reed beds ...

... and only one previous owner, honest ...

... Yet another satisfied customer!

WOULD YOU TRUST THE EDITORIAL RESPONSIBILITIES OF YOUR NEWSLETTER TO PEOPLE LIKE THIS? WELL, YOU HAVE, YOU KNOW!

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WETLANDS RESEARCH IN PROGRESS

ASL's recent congress at Jabiru included an informal session on wetlands organised by Jane Roberts and Jenny Davis. Following an introduction by Sam Lake, short reports on the status of wetlands research in each state were provided by Angela Arthington (QLD), Lance Lloyd (VIC), Naomi Rea (SA), Jenny Davis (WA), Pierre Horwitz (TAS) and Jane Roberts/Paul Boon (NSW). Ross Smith and Paddy Osbourne commented on New Guinea wetlands. Max Finlayson and Michele Barson commented on national wetlands needs. A detailed report of the session will be included in the next newsletter.

National Data Base

One of the issues raised was the need to establish a database for wetlands research. Michele Barson (Bureau of Rural Resources) advised that the Department of Primary Industries and Energy's 'STREAMLINE' database incorporated wetlands research. 'STREAMLINE' is the computerised national water database, available for on-line computer searching via CSIRONET's AUSTRALIS system. It includes a bibliographic component, 'Streamline Update', which is also produced as a regular journal, listing references to both published and unpublished documents relating to all aspects of the Australian water industry. The 'Water Research in Australia: Current Projects' database, which presents summaries of current water related projects being undertaken as at the end of June each year is also part of STREAMLINE. A hard copy of this information is also published annually.

Michele undertook to provide a listing of current projects on wetlands research from the database. The twenty-four projects identified are listed below under Project Title, Project Leader and Institution, with the liaison officer in brackets. STREAMLINE also contains an abstract, publications, list of related projects and other project information.

The first twenty titles concentrate on the ecology and management of wetlands, including the development of inventory techniques.

1) **Project Title:** Geographic Information System (GIS): wetlands mapping: pilot project.
Project Leader: D.P. Alexander
Institution: Department of Conservation and Environment, Victoria.

2) **Project Title:** Conservation value assessment of wetlands.
Project Leader: M.I. Beilharz
Institution: Department of Conservation and Environment, Victoria.

3) **Project Title:** Waterbirds and wetlands of the Swan coastal plain.
Project Leader: S.A. Halse
Institution: Department of Conservation and Land Management, Western Australia.

4) **Project Title:** Effects of altered water levels on wetland plants.
Project Leader: A.J. McComb (R.H. Froend)
Institution: Murdoch University, Western Australia.

5) **Project Title:** The effect of increasing salinity on freshwater macrophytes in streams and wetlands.
Project Leader: K.R. James
Institution: Centre for Stream Ecology, Victoria.

6) **Project Title:** Nutrient assimilation in wetlands.
Project Leader: A. Soukup (F.R.C. Cattell).
Institution: NSW Agriculture and Fisheries.

7) **Project Title:** Remote sensing of wetlands.
Project Leader: M. Barson (R. Johnston)
Institution: Bureau of Rural Resources, ACT.

8) **Project Title:** Ecology and management of plants in wetlands.
Project Leader: J. Sale
Institution: CSIRO, Division of Water Resources, Griffith, NSW.

9) **Project Title:** Lachlan wetlands water management strategy.
Project Leader: M.W.A. Bennett (P.D. Wettin)
Institution: NSW, Department of Water Resources.

10) **Project Title:** Impact of sewage effluent on McLeod Morass nutrients and ecology.
Project Leader: B.C. Chessman (H. Bibrowska)
Institution: Environment Protection Authority, Victoria.

11) **Project Title:** Water quality in a small wetland at Aireys Inlet.
Project Leader: H. Bibrowska
Institution: Environment Protection Authority, Victoria.

12) **Project Title:** Wetland dynamics in eastern Australia.
Project Leader: L.W. Braithwaite
Institution: CSIRO, Division of Wildlife and Ecology, ACT.

13) **Project Title:** Role of flooding in reproduction and recruitment of fish in regulated wetlands.
Project Leader: P.C. Gehrke
Institution: NSW Agriculture and Fisheries.

14) **Project Title:** Macroinvertebrate fauna of Capel wetlands, Western Australia.
Project Leader: D.H. Edwards
Institution: University of Western Australia.

15) **Project Title:** The karst spring lakes of the southeast of South Australia.
Project Leader: M.E. Thurgate
Institution: University of Melbourne.

16) **Project Title:** Effects of irrigation discharge on the Barrattas wetlands, Queensland.
Project Leader: R.A. Congdon
Institution: James Cook University of North Queensland.

17) **Project Title:** Murrumbidgee NSW wetlands water management strategy.
Project Leader: H.C. Cross (P.D. Wettin)
Institution: NSW, Department of Water Resources.

18) **Project Title:** Lowbidgee NSW flood and irrigation district (Nimmie, Pollen and Caira Creeks) floodway scheme environmental investigation.
Project Leader: L. Beck
Institution: NSW, Department of Water Resources.

19) **Project Title:** Water management plan for the Macquarie Marshes, NSW.
Project Leader: D. Geering
Institution: NSW, Department of Water Resources.

20) **Project Title:** Ecology of aquatic plants in permanent and ephemeral wetlands.
Project Leader: M. Brock
Institution: University of New England.

In addition, four projects are being conducted emphasising the use of wetlands as treatment areas for wastewater and stormwater.

21)	**Project Title:**	An artificial wetland to accept effluent from a single household septic tank.
	Project Leader:	T.H. Davies
	Institution:	Chisholm Institute of Technology, Victoria.
22)	**Project Title:**	Urban stormwater quality improvement
	Project Leader:	R.A. Graham
	Institution:	Environmental Protection Authority, Victoria.
23)	**Project Title:**	Development of artificial wetlands for wastewater treatment.
	Project Leader:	D.S. Mitchell
	Institution:	CSIRO, Division of Water Resources, Griffith, NSW.
24)	**Project Title:**	Wetland filters as pollutant control devices.
	Project Leader:	P.W. Cullen
	Institution:	Water Research Centre, University of Canberra

To maximize the usefulness of STREAMLINE to wetland researchers, it is suggested that all current projects be incorporated. This can be arranged by contacting:

The Streamline Co-ordinator
Land Resources Division
Department of Primary Industries and Energy
GPO Box 858
Canberra ACT 2601

and asking to be added to the mailing list. If you do this in the next 3-4 weeks, your project will be included in the 1990 survey and your library will receive a copy of the 1990 Current Projects publication.

National Wetlands Classification and Minimum Data Set

Also discussed at the Jabiru meeting were national wetlands research and data needs. It was decided that the establishment of an agreed classification and minimum data set for Australian wetlands would afford a more unified approach to the inventory, evaluation and management of wetlands.

Subsequently, the Bureau of Rural Resources has initiated a review of wetland classification and data needs, the objective being an agreed classification and minimum data set suitable for use in computerized databases. The project began in early June, and is being undertaken by Dr Jann Williams, a plant ecologist who has previously worked at the National Herbarium of Victoria and the Australian Heritage Commission.

The project will involve extensive consultation with state and commonwealth agencies and researchers in tertiary institutions. It is anticipated that a draft document will be circulated for comment in September.

Michele Barson
Dept. Rural Resources

ANNOUNCEMENTS

OPPORTUNITIES FOR SCIENTFIC EXCHANGES THROUGH THE AUSTRALIAN ACADEMY OF SCIENCE

AAS has called for applications for scientists wishing to participate in exchange programs in China, Japan, France and U.K.; post doc programs are also available in Japan and U.K.. Full details can be obtained from AAS by phoning Bonnie Bauld on (06) 247 3966.

ECOLOGICAL SOCIETY OF AUSTRALIA

...has written to us to remind us of their existence and to ask aquatic ecologists to submit articles to the *Australian Journal of Ecology*. Check out the latest issue in a library near you for details about who to send your hot manuscripts to.

FORTHCOMING CONFERENCES

Water, atmosphere and soil: a new environmental deal. Venice, Italy, May 8-11 1991. Contact O.I.C. Incentive, Viale Majno, 21, 20122 Milano, Italy
World Fisheries Congress. Athens, Greece, April 14-19 1991. Contact American Fisheries Society, 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814, U.S.A.

THE SUMMER OF 1989/90, A VINTAGE SEASON FOR BLUE-GREEN ALGAE

Information gleaned by John Hawking from the Deparment of Water Resources of N.S.W.

A wine-glass of water taken from many inland freshwaters from south-eastern Australia last summer may have held considereable interest to connoisseurs. Held up to the light, the liquid may well have had a distinctive blue-green hue, with an obvious turbidity caused by phytoplankton colonies. If left to stand, a surface scum may have formed in the glass. The bouquet could well have been a strong earthy, mouldy odour; and as for the palate - well, drink it if you dare!

Blue-green algal blooms caused considerable problems in freshwaters throughout south eastern Australia last summer, including in New South Wales. A number of rivers and reservoirs under the control of the N.S.W. Department of Water Resources suffered severe blooms of these algae, although the blooms were by no means restricted only to waters controlled by this authority. Blooms were particularly bad in Pindari, Carcoar, and Windamere Storages, necessitating the issuing of public warnings advising people against their use for the duration of the algal presence, which lasted from December to May. These warnings resulted in the much reduced recreational usage of these reservoirs compared to previous years. The warnings also advise against use of the water for stock and domestic supplies, which may represent a significant demand for water from some reservoirs; although the major purpose of most of the impoundments, the supply of irrigation water, is generally unaffected by the blooms. Blue-green algal blooms were also present in Glenbawn Storage during spring, and in Split Rock, Keepit, Chaffey and Copeton storages for most of the summer and autumn months. Brief or localized blooms, confined to only part of the impoundment, also took place in Burrendong, Toonumbar, and Wyangala Storages, but fortunately these were not as problematic as in the other reservoirs. Additionally there were extensive blooms in part of the Lachlan River and in the various off-river storages associated with this river system, as well as in the Namoi River near Walgett. A much more extensive list could undoubtedly be compiled if more rivers and other storages controlled by local government or other water authorities in N.S.W. were included; an example being Lake Victoria in the far south-west of the state, which had an extensive bloom in late summer and early autumn.

The main genera involved in these N.S.W. blue-green algal blooms were *Microcystis* and *Anabaena*, although large numbers of cells of *Aphanizomenon* and *Oscillatoria* were also present on occasions in some locations. All four genera contain potentially

toxic species which can cause domestic stock poisonings and be detrimental to human health if they occur in potable water supplies.

In almost all cases the blooms can be attributed to cultural eutrophication, although exceptions may possibliity be those in Split Rock, Windamere, and Glenbawn Storages. The first two reservoirs are still filling for the first time, while Glenbawn Dam has recently been raised to enhance the storage capacity of this impoundment. In all three cases the water is flooding new ground, with the subsequent release of nutrients from recently submerged soils and vegetation.

However, the sources of nutrients in most other instances is still subject to speculation, although inappropriate use of agricultural fertilizers can not be ruled out. Chaffey Storage is a case in question. It has long been rumoured that a natural phosphate-rich geological deposit was the main source of phosphorus into this reservoir, but searches for evidence of this to date have been unsuccessful. Instead, one has only to make a brief inspection of its catchment to view the large amounts of superphosphate stockpiled on farms in the area to suspect this as the major nutrient source for the reservoir. Put cynically, it is possible that the only natural phosphate-rich geological deposits in the Chaffey Storage catchment have been imported there from places such as Nauru and Christmas Island. Studies are now underway to determine the origin of the nutrients entering Chaffey Storage.

The job of pin-pointing the major sources of nutrients that result in the blue-green algal blooms of New South Wales' freshwaters has scarcely begun. The most detailed program to date undertaken by the DWR, and now nearing its first birthday, is that for Carcoar Storage. This reservoir is hypereutrophic and likely to have the worst water quality of any inland water in the state. Its major problem arises from the township of Blayney, barely four kilometres upstream, with a population of 2700, and an abattoir as its major industry. For almost twenty years the town and abattoir have contributed nutrients to the reservoir, and initial data from the investigation indicate that these combined urban sources may contribute between 70 and 80% of the total phosphorus load to Carcoar Storage. Efforts are now being directed towards improving the water quality of this reservoir by reducing nutrient inputs to such an extent that the possiblity of blue-green algal blooms is greatly reduced. All possible contributors, both urban and rural, will be asked to play a role in this clean-up, through Total Catchment Management. If successful, this reservoir will provide a model on which to base efforts tobase efforts to improve the water quality and reduce blue-green algal blooms elsewhere in New South Wales. Thus Carcoar Storage, which is not a major water resource on a state-wide basis, may yet become a very important reservoir, leading the fight against the blue-green algal invader of our inland waters.

BOOK REVIEW

Proceedings of the Workshop on Native Fish Management. Canberra 16-17 June 1988. Murray-Darling Basin Commission. 1989. Reviewed by J. Koehn

A comprehensive management plan for the Murray River would be seen by many to be long overdue. Any workshop on this subject which involves participants from New South Wales, Victoria and South Australia, and gives attention to biological aspects of the river should be seen as a major step forward.

Indeed, these proceedings comprise a collection of papers from speakers from the three states on subjects including management structures, conservation, commercial and recreational needs. The need for a co-ordinated approach to management was highlighted and methods of water allocation, hydrological management,a revision of operations and co-operative management are discussed.

The bulk of the papers presented, however, were from key speakers providing background biological information relevant to major problem areas of fish management within the Murray-Darling River system. Topics such as the biological role of snags, floodplain rearing habitats, catchment management, introduced species and diseases are all covered. The papers are presented in a concise format, often in point form, with adequate summaries and an apparent intention to get to the "bottom line" - an attribute which should be appreciated by all users.

A wide-ranging list of recommendations which followed discussion of these topics is presented, which includes some directions for future research and management alterations.

These proceedings provide a valuable information set for the management of native fishes in the Murray-Darling Basin, and supplement this with appropriate recommendations towards rectifying existing problems. Overall, this is a positive, well worthwhile document.

From the pages of the Bulletin of the Ecological Society of Australia inc. 19(4) December 1989

Worms to Wasps - An Illustrated Guide to Australia's Terrestrial Invertebrates. Oxford Press. 1990. An anonymous review.

A useful paperback with keys to identification of all the orders of terrestrial invertebrates. A third of the the first print run sold in a few weeks of publication. Not quite the equivalent of Williams on freshwater life but getting there. Fills a gap.

LIMNOLOGICAL BIBLIOGRAPHY [Vol. 28(2) 1990]

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Endnote

Editor 1: Well, I guess we'd better get this editorial meeting underway.

[FX: Champagne corks pop, champagne poured into glasses]

Editor 2: Don't mind if we do. Cheers.

Editor 1: Cheers. Item No. 1. Any comments on this issue?

Editor 2: I think it's quite a good effort for a first attempt. Pity it was a bit late, but ...

[FX: More champagne being poured]

Editor 1: Yeah, that's the way it goes. What's in store for the next issue?

Editor 2: How about a Shame File for state reps who don't send copy.

Editor 1: Got that. Or a Sludge File for water polluters. Investigative journalism.

[FX: More champagne being poured]

Editor 2: Or a wine of the month.

Editor 1: Good idea. I guess we'll just have to see what people send us.

Editor 2: Yeah. Next item on the agenda. No. 2. Another bottle?

Editor 1: All those in favour.

Editor 2: Aye.

Editor 1: Carried unanimously. Waiter! Meeting adjourned.